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NOTES ON *FESTUCA THURBERI*.—Among the botanical collections of the Expedition of Lieutenant Wheeler, in 1873, made in Colorado, was a *Festuca* which the writer described and published as *Festuca Thurberi*. The specimens were in a young, undeveloped condition, which prevented the recognition of their identity with the so-called *Festuca scabrella* of that region of country. Some time afterwards Prof. Porter sent specimens which made the connection clear. Still, as the grass in question had been referred to *Festuca scabrella* with some doubt, the writer entered into a critical investigation of the same, and became satisfied that it was not the plant described by Hooker in the Fl. Bor. Am. The plant described and figured in that work by Dr. Hooker was collected in the Rocky Mountains by Drummond, and referred to *F. scabrella*, Torr. Mss. Whether the species was ever published by Dr. Torrey we have not been able to learn. Not having access to the original specimens upon which Dr. Torrey founded his species, nor to those of Dr. Hooker, I could only compare the description given by Dr. Hooker and his figure with the specimens of the grass from Colorado which has been distributed in several collections as *Festuca scabrella*, or what I described as *Festuca Thurberi*. It seems hardly possible to connect the two descriptions, and the conclusion is, therefore, that there are two species under consideration. If, therefore, Dr. Hooker's plant be correctly referred to *Festuca scabrella*, the name *Festuca Thurberi* will still apply to the grass from Colorado and other portions of the Rocky Mountains. A *Festuca* from California has been distributed as *F. scabrella*. One also occurs under that name in Mr. E. Hall's collection of Oregon plants. The specimens of these plants which have come under my observation are certainly different from the one which I have described from Colorado. Whether they are the plant of Hooker's Flora or not, I will not now undertake to decide. I append an abstract of contrasted characters of the two grasses under discussion, those of *F. scabrella* drawn from the description in Hooker's Fl. Bor. Am., and those of *F. Thurberi* from Colorado specimens.

Festuca scabrella.—Culm 1 ft. high, erect, caespitose, smooth, striate, chiefly one-leaved; leaves narrowly linear, acuminate, scarcely 2 inches long, vagina very long (under the lens scabrous); the remaining leaves also glabrous, mostly radical, with membranous sheaths, narrowly linear, 3-4 inches long, soon deciduous from the sheath; panicle compound, 3-4 inches, erect, branches spreading, toward the apex spicate; spikelets greenish-purple, 3-4 flowered, ovate, $\frac{3}{4}$ inches long, to the touch, or under the glass, minutely scabrous; glumes unequal, acute, almost twice shorter than the flowers, nerveless, without awns; flowers terete, outer valve 5-nerved, extended into a very short beard, inner valve lanceolate, flat, margin inflexed, scabrous at the flexures.

Festuca Thurberi.—Culm 2-2½ feet high, erect, caespitose, not conspicuously striate, 2-4 leaved; leaves rigid, involute, 6 inches long, scabrous; radical leaves numerous, involute, rigid, 1-1½ ft. long, very scabrous on the margin, sheaths somewhat membranous, blade deciduous when old; panicle compound, 3-5 inches, a little drooping, 4-5 joints, branches slender, spreading when ripe, single or in pairs, branching below the middle; spikelets purplish, oblong-lanceolate (or cylindrical when young), wedge-shaped when expanded, 3-5 flowered, 5-6 lines long, slightly scabrous under the lens; glumes thin, membranaceous, shorter than the flowers, of nearly equal length, obtuse, or the lower one acutish, the upper one convex, not compressed, obscurely nerved, lower one slightly keeled; flowers cylindrical, convex (not compressed), outer palea obscurely 5-nerved, lanceolate, acute or short cuspidate, minutely scabrous; inner palea narrow, slightly hispid on the keels.

GEO. VASEY.